NEVADA CENTENNIAL

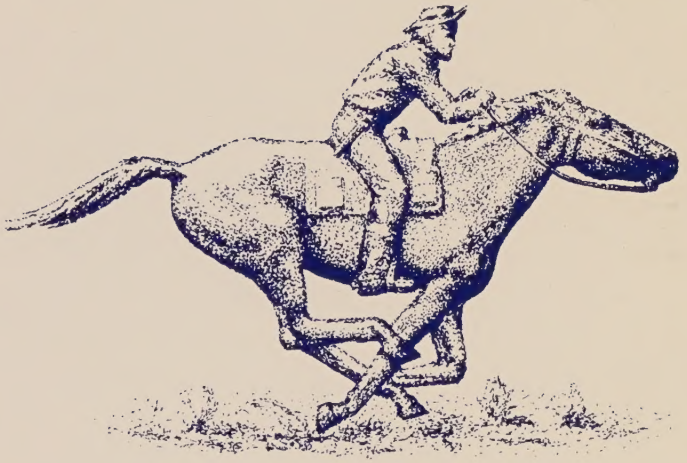
100 years

NEVADA HIGHWAY DEPARTMENT

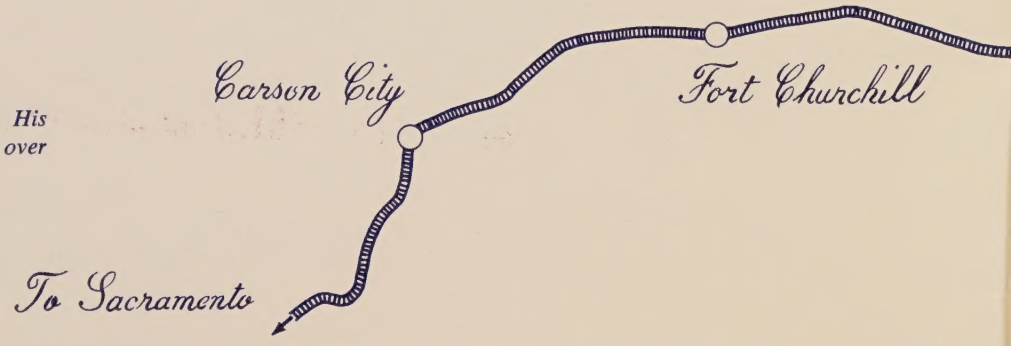
NNIAL REPORT 1963-1964

Early Trailblazer John C. Fremont

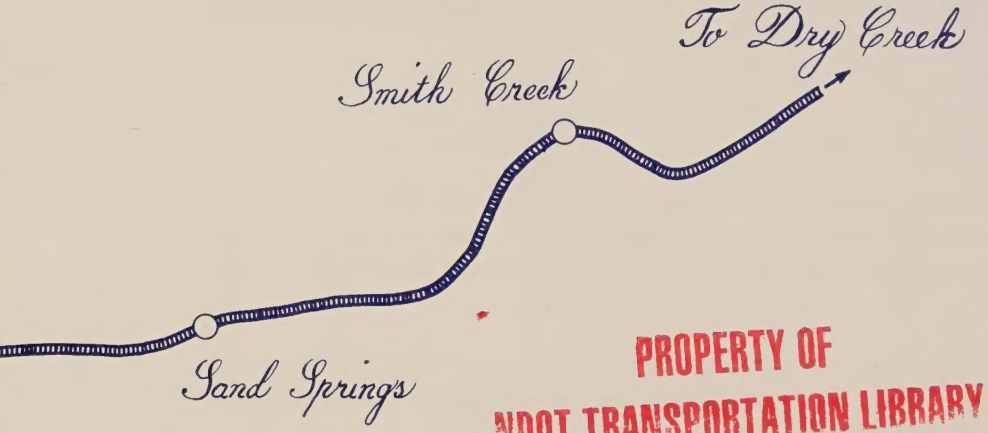
Highway building in Nevada began long before the advent of the state program in 1917. Explorers blazed the first "highways" across the State as early as 1826. Trails of Ogden and Fremont became roadways for the pioneers who followed.



Another pioneer road builder was the Pony Express rider. His trail and way stations laid the groundwork for later commerce over the Overland Mail and Stage line.



Bridges and fords provided river crossings for the early settlers.



Thousands of wagons followed routes discovered by Nevada's explorers and trappers. Trails laid out by these "mountain men" paved the way for the emigrants who crossed the State. Those pioneer road builders included Bidwell, Ogden, Fremont, Talbot, Smith, Lassen, and Applegate.

BOARD OF DIRECTORS

KEITH LEE
State Controller

GOVERNOR GRANT SAWYER
Chairman

HARVEY DICKERSON
Attorney General

100 YEARS ago Nevada achieved statehood. The mountain and desert wilderness became a political entity. In 1864, the vast distances separating the State's budding settlements could be spanned only by a few trails and wagon-rutted roads. But these rough "highways" were the lifelines for a growing state; there were no railroads or airlines, and few telegraph lines as an alternate means of communication.

Communities sprang up along the emigrant trails because a road provided access to them. The wagons and horses that brought business during the pioneer period weren't too different from the cars and trucks that handle the commerce of the modern period. The dust may be gone, but the need is stronger than ever for more and better roads.

A century ago the traveler was frequently both user and builder of the road. The brush was cleared and the trail widened by the countless wagons, horses, herds of livestock, and people that used the route. There were no giant earthmovers to cut the mountains down to size and bridge the canyons and ravines. What takes hours now took weeks then; and yesterday's "tourist" braved death at times to complete his trip across Nevada.

FOREWORD

This 24th biennial report is respectfully submitted to the people of this State as a record of this department's accomplishments during the past biennium, and as a pictorial commentary on our past, present, and future activity. In recognition of Nevada's 100th year of statehood, this report has adopted an historical theme, and includes information on the pioneer era of roadbuilding. Despite the fact that the State's formal highway program began just 47 years ago, roads in Nevada date back over a century. They began with the explorers who blazed the early trails, and built what amounted to the first roads.

The highway program has made tremendous strides since then, but greater accomplishments still lie ahead. Although the past 2 fiscal years have again been record-setting ones, we feel this is just a preview of activity to come.

Because our program has become so large and complex, providing information to the public is becoming increasingly difficult. The report that follows is an attempt to provide a more graphic picture of highway activity by more use of photographs, charts and diagrams, and less use of statistics and technical language.

For those agencies and individuals needing more detailed material, the department also is publishing a statistical supplement to this biennial report. This 1963–64 publication follows the pattern set 2 years ago when for the first time a pictorial report and a statistical supplement were issued. Its past acceptance has encouraged us to repeat this form of reporting. We hope it continues to meet with your approval.

HIGHWAY DEPARTMENT OFFICIALS

JOHN E. BAWDEN
Deputy Highway Engineer

W. O. WRIGHT
State Highway Engineer

R. E. ELDREDGE
Deputy Highway Engineer

1864 HIGH

From Trailways to Freeways might best describe the theme of this report and the transition in road building made by Nevada in its 100 years of statehood. What began a century ago with a few trails and wagon roads has developed into a 4,600-mile system of paved two- and four-lane highways.

The close of the biennium saw the department approach the midway point in its mammoth Interstate program. As of July 1, 1964, nearly 260 miles of freeway were open to traffic or under construction.

With this achievement came the first visible signs of progress on the Reno Seventh Street Freeway. Climaxing several years of bitter controversy, the department completed the acquisition and clearance of initial pieces of property required for the long awaited project.

Although freeways on the Interstate system received most of the attention, planning began on the first limited-access routes designed for the State's largest urban areas, Reno and Las Vegas.

Advance planning for reconstruction of primary and secondary routes that had been set up on a 5-to-10 year schedule was placed on a 20-year basis.

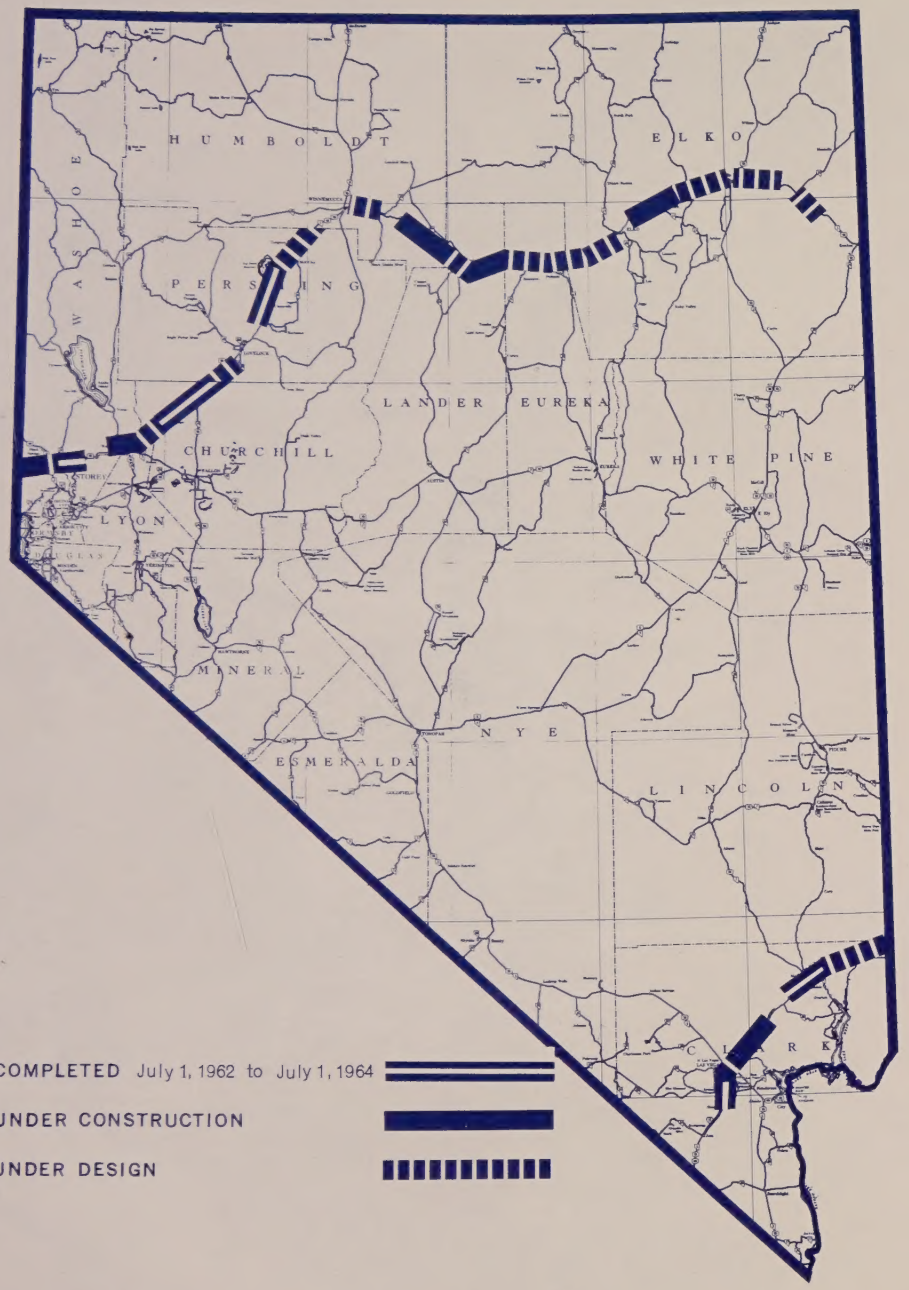
WAYS 1964

After 1972, when current freeway construction is scheduled for completion, federal highway fund revenues may be available for use on the primary and secondary systems. The Bureau of Public Roads has asked the State to submit its recommendations for needed road construction during the next two decades to assist the government in planning future use of the trust funds.

For the first time in more than a decade federal lands highway funds were made available to Nevada. Approval was given for the expenditure of $500,000 for the relocation of U.S. 50 over Carroll summit. A contract for the initial project on the three-part job was awarded in May 1964.

Another achievement during the biennium was the establishment of a formal training program for both present and future employees. Classes for in-service instruction of personnel from testing, construction, and right-of-way were held. A cooperative program with the University of Nevada was initiated for the training of future department engineers.

The 1963–64 biennium, in summary, was a period of great activity and change for the Highway Department.



INTERSTATE FREEWAY

As in the past two bienniums, Interstate activity continued to set new records as it led the highway program. Over $35,615,000 in contract awards took place during the 2-year period. The 13 jobs let called for construction of 107 miles of new freeway.

With the close of the biennial period, the department neared the midway point in its mammoth Interstate program. As of July 1, 1964, nearly 260 miles of freeway were open to traffic or under construction.

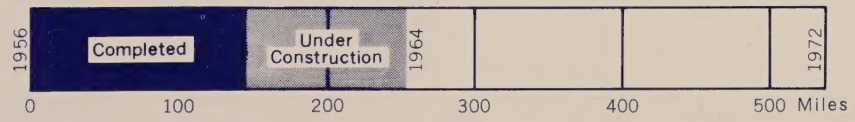
During the 1963 and 1964 fiscal years, the State completed eight Interstate contracts at a cost of $27,688,000. Over 86 miles of new multi-laned highway were added to the system.

This record-setting period included the award of the State's first $5 million contracts. In January 1964, a $5,073,166 job was let for construction of 3.3 miles of Interstate 80 (U.S. 40) between Verdi and Lawtons west of Reno. Four months later, a $5,369,552 contract was awarded for 6.4 miles of Interstate 15 (U.S. 91) from McCarran Field to Sahara Avenue in Las Vegas.

During the 2-year period design work on the system progressed rapidly. At the end of June 1964, the department had over 190 miles under design. This left less than 80 miles of the entire 535-mile Interstate Freeway system in Nevada to be completed, placed under contract, or to be placed under design.

The biennium also marked the first physical progress to be made on the Reno Seventh Street Freeway. Acquisition and clearance of property began in northwest Reno and in Sparks. As the 1964 fiscal year ended, over 40 parcels of land had been purchased and cleared.

In February 1964, Nevada held its last public hearing on its portion of the Interstate system. After 8 years of conducting public meetings on proposed freeway projects, the department closed with a hearing in Wendover on the section of Interstate 80 from Silver Zone Pass to the Utah line.



STAGES OF CONSTRUCTION

PRIMARY HIGHWAY

Despite emphasis on completion of the Interstate during the past 2 years, the department continued its impressive program of work on the primary system. More than $11,484,000 was spent to complete 128 miles of new or improved roads.

During the same period, 19 contracts were awarded for construction of 192 miles of highway at bid costs totaling $17,711,000. This record high total was 70 percent greater than that recorded for the 1961–62 biennium.

Highlight of the 2-year achievement was the beginning of construction on the new Mercury Expressway. Design which was under way in the previous biennial period was completed on the 60-mile route and the five units included on the project were let for contract in the 1963–64 biennium.

A part of this project was the State's largest primary job to date. In October 1963, a $1,825,792 contract was awarded for construction of 12.6 miles of the four-lane highway from 7 miles west of Indian Springs to 1.8 miles west of Mercury junction.

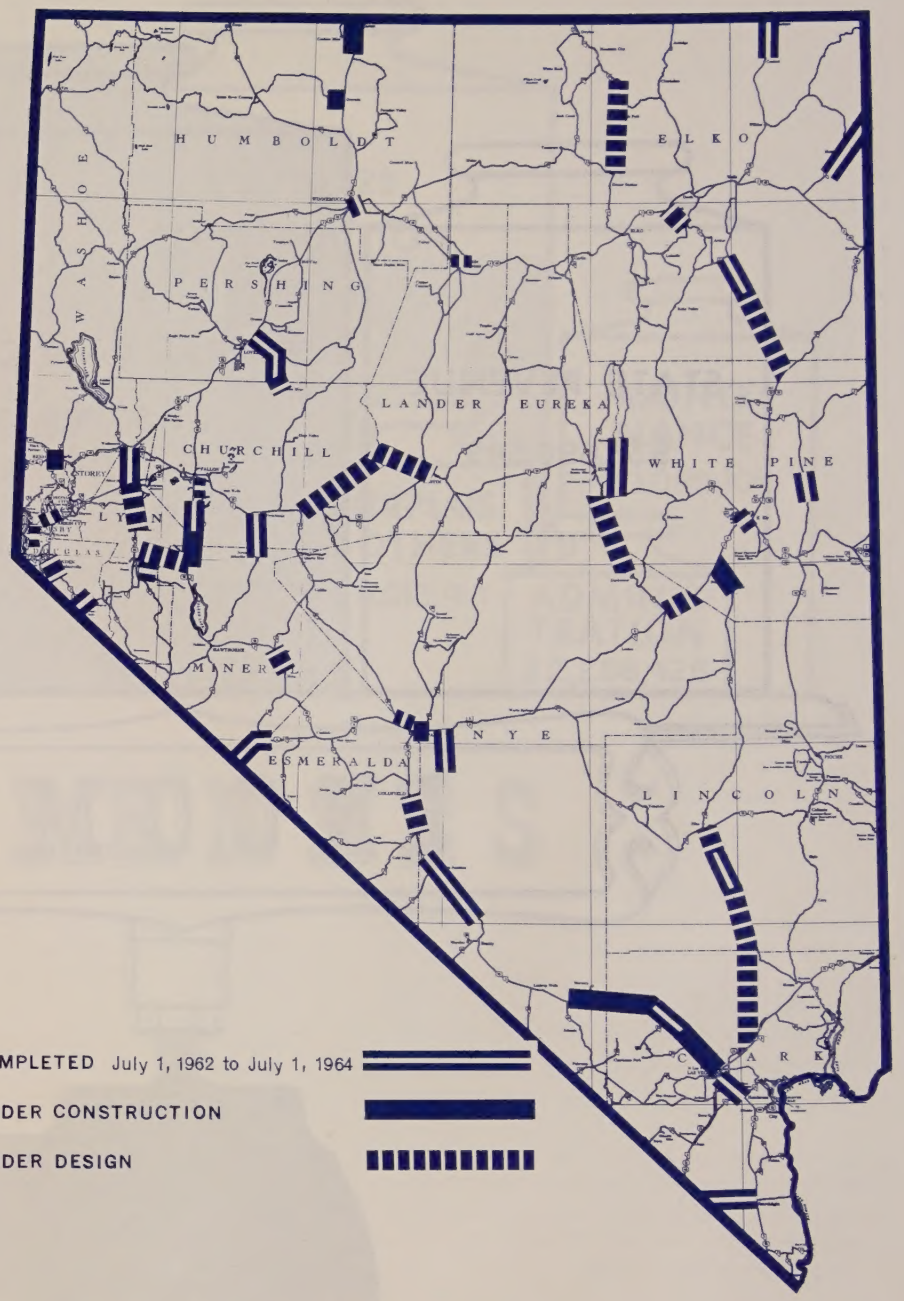
Other major jobs awarded or completed during the biennial period included the reconstruction of U.S. 40 through Reno and Sparks, the four-lane rebuilding of U.S. 395 over Lakeview hill north of Carson City, and the relocation and reconstruction of U.S. 50 over Carroll summit west of Austin.

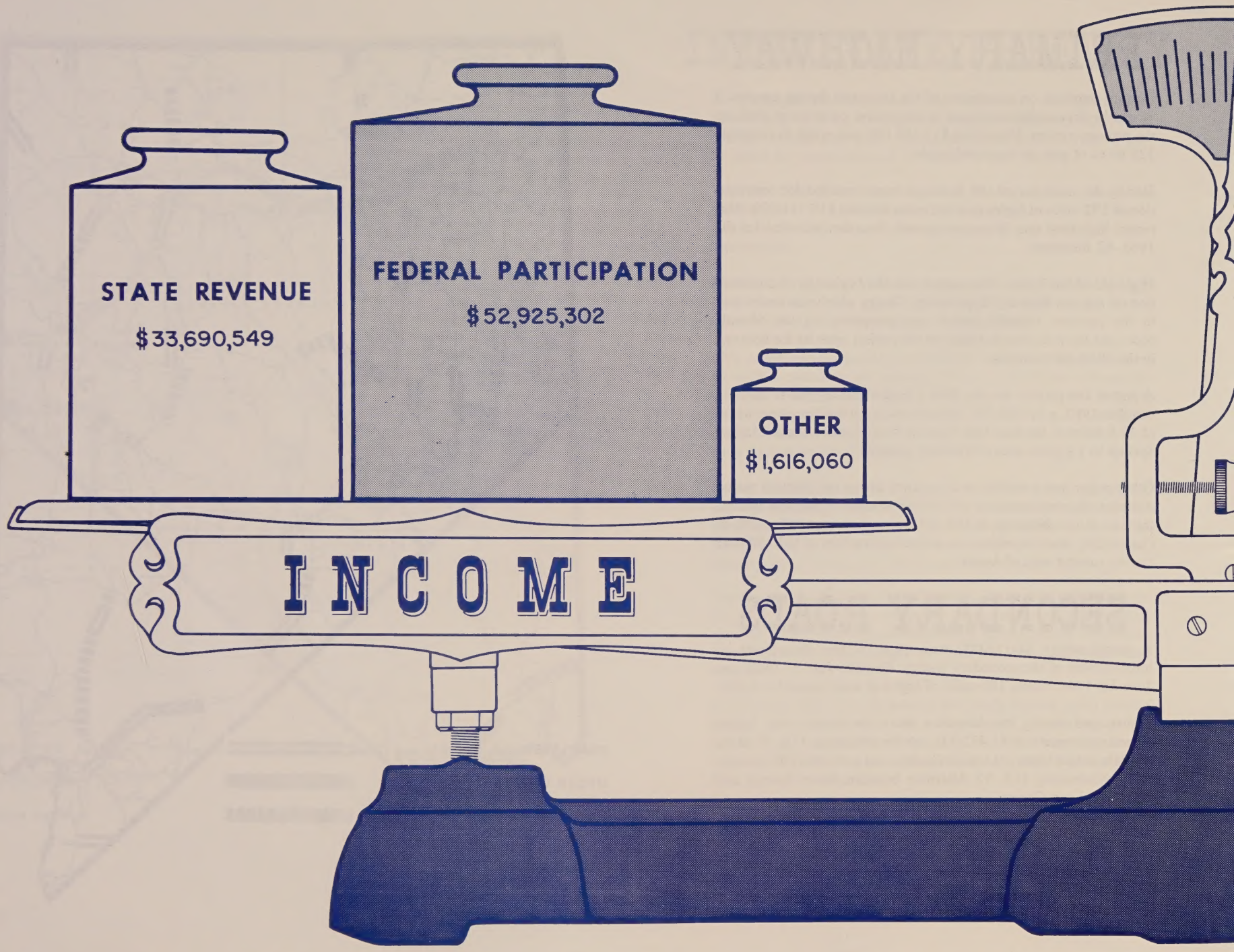
SECONDARY ROADS

A record-setting $8,313,000 was spent by the department on improvement of the secondary system. Between July 1, 1962, and June 30, 1964, nearly 180 miles of highway were opened to traffic.

Constructed during the biennium were the State's two largest secondary projects: a $1,432,331 job for rebuilding U.S. 93 along the Pahranagat lakes in Lincoln County, and a $1,240,104 contract for reconstructing U.S. 95 Alternate between Silver Springs and Fernley in Lyon County.

As part of the improvement of U.S. 93 in eastern Nevada, the department began its relocation and construction of the portion of the route called the "Apex Cutoff." Design was completed on the first 19.6 miles from Interstate 15 north, and the contract was awarded at the close of the biennial period.




STATE REVENUE
$33,690,549
FEDERAL PARTICIPATION
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OTHER
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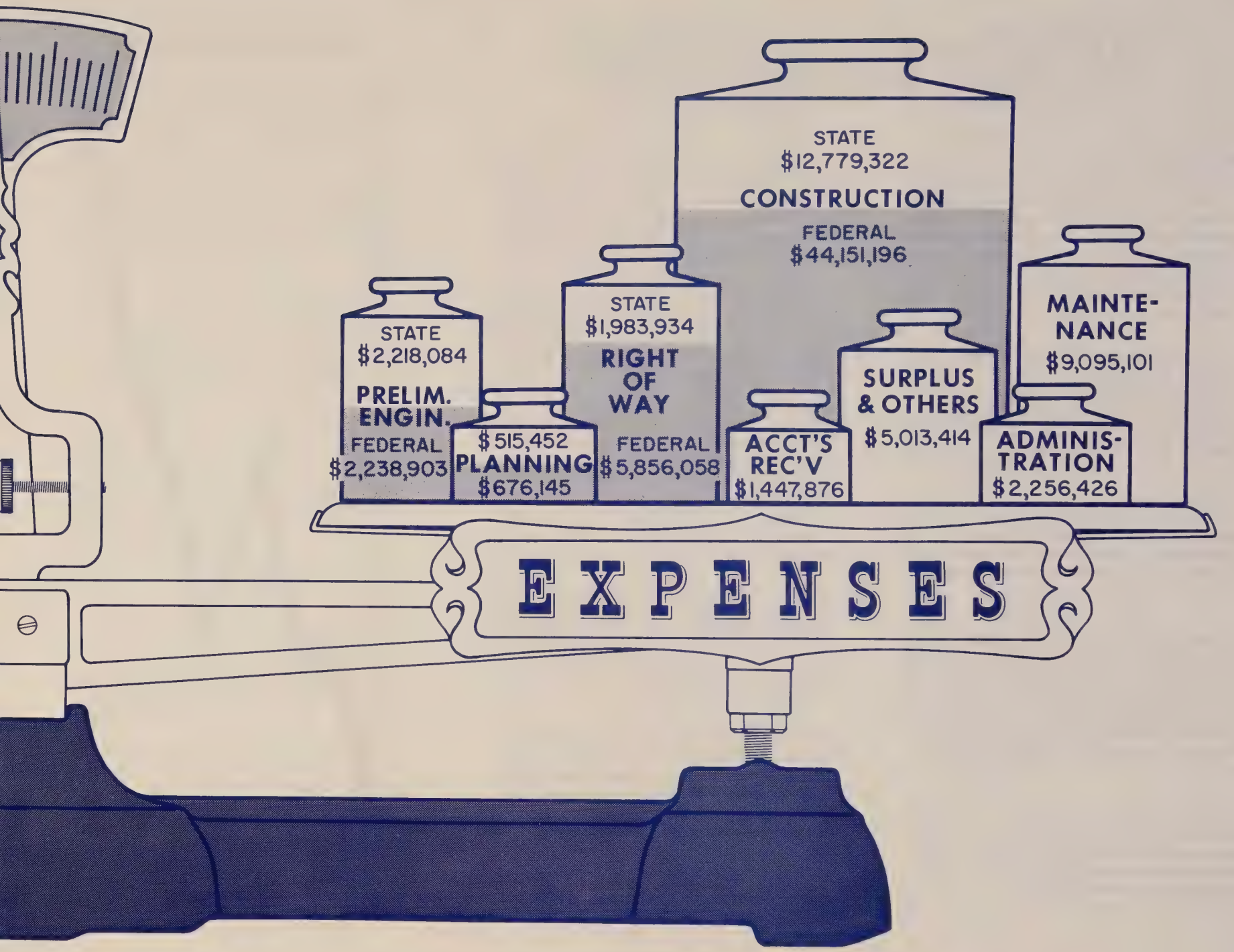
INCOME


STATE
$12,779,322
CONSTRUCTION
FEDERAL
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STATE
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PRELIM.
ENGIN.
FEDERAL
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PLANNING
$676,145
STATE
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RIGHT
OF
WAY
FEDERAL
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ACCT'S
REC'V
$1,447,876
SURPLUS
& OTHERS
$5,013,414
MAINTE-
NANCE
$9,095,101
ADMINIS-
TRATION
$2,256,426
EXPENSES

ADMINISTRATION

Several major changes took place in highway administrative operations during the last 2 years. An internal audit program was started; a formal training program under the supervision of a full-time training officer was established; an electronic computing technique for management purposes was developed; and a major survey made of department policies and procedures to determine what improvements could be made.

During its preceding 46 years of activity, the Highway Department was able to handle its growth problems with periodic minor modifications in operating procedures. However, the recent rapid expansion of the road building program has brought with it a need for many major changes in order to maintain production and efficiency.

For the first time in its history, the cost of the highway program exceeded $80 million for a 2-year period. This tremendous increase in activity brought with it complex organization and management problems.

To assist it in determining what changes should be made, the department called in a management consultant firm to survey highway policies and procedures. By the end of the biennium, department officials had already acted on several of the recommendations of the firm, and were considering others contained in a detailed report of the survey.

To provide a closer check on the various phases of the highway program, an internal auditing system was established. A continuing survey of operating procedures was initiated to assure adherence to accepted department policies.

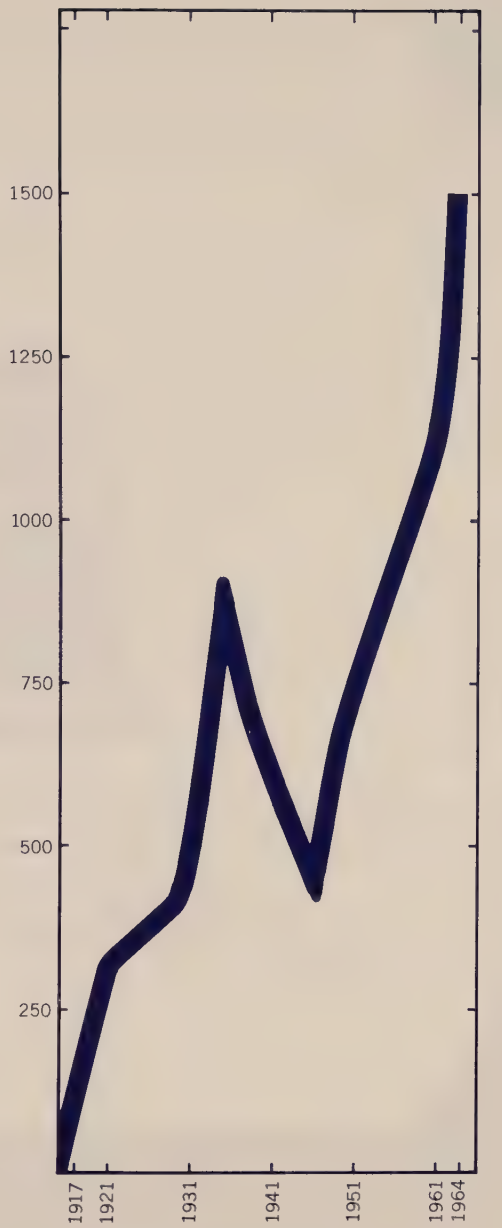
As a further management tool, highway administrators adopted a new program called PERT (Program Evaluation Review Technique). Under the system, all steps needed to prepare a project for contract were analyzed and a time schedule set for completion of preconstruction activity.

The 1964 fiscal year brought to a close the current program of Interstate Freeway hearings. On March 12, 1964, the final hearing was held at Wendover, Utah, as a joint meeting with highway representatives from that state.

On that date Nevada conducted its 29th official public hearing on Interstate Routes 80 and 15. These meetings dated back to 1956 when the state held its first in Beowawe, a railroad community between Battle Mountain and Elko. During the intervening 8 years the department conducted hearings on nearly 500 miles of freeway costing an estimated $210 million.

Indicative of the growth in administrative activity during the biennium is the marked increase in expenditures over the previous 2-year period. In 1963 and 1964, $2,500,000 was spent for various administrative functions compared to the $1,663,000 spent in 1961 and 1962.

As during the previous biennium, administrative activities covered a wide area, including personnel, public information, stores and purchasing, federal-aid programming, files and mail, data processing, accounting, the operations of the office engineer, and the production of the state magazine.



EMPLOYEES THROUGH THE YEARS

DATA PROCESSING

During the past 2 fiscal years, data processing continued to expand its area of operation as more demands were made for its services. Added to the fields of accounting and engineering was management control.

A project management program was started to provide department administrators with a tool for better control of the activity involved in preparing a project for contract.

New electronic equipment was installed to complement existing facilities and enlarge the capabilities of data processing for handling problems in accounting, planning, and design. Extensive modifications in the highway accounting system necessitated changes in the computer programs and operating procedures.

In the field of engineering, a complete series was set up for the solution of bridge design and geometrics. At the same time, planning activity required the development of programs for the handling of traffic data and for the forecasting of future traffic volumes and flow.

SAFETY

Safety education and accident prevention continued as the primary objectives of the department safety program. Safety instruction was given on a group and individual basis to field personnel throughout the State.

During the biennial period, driver testing was initiated. Vehicle operators, particularly those in the field, were given psycho-physical tests. In addition, office personnel who might drive in the future were tested.

As part of the continuing civil defense program, the safety director established a radiological monitor equipment repair center in the Sparks shops.

ACCOUNTING

In the past 2 years, the activities of accounting have grown in direct proportion to the expanded highway program. To accommodate this increased workload, former accounting procedures were revised or discontinued, and new ones inaugurated.

A general ledger system of accounting with double-entry application was established and fitted into the data processing operation. Through the use of this system, department administrators were provided with a concise financial picture of highway activity at any desired time.

A program was set up for a continual survey and reevaluation of all current accounting systems and procedures. Accompanying this was the establishment of a perpetual system of reevaluation for cost accounting procedures to make possible a more accurate report of department operations. Assisting in this effort was the creation of a "Desk Procedure Manual" for the guidance of personnel involved in accounting activity.

Successful adoption of the concurrent audit program begun in the previous 2-year period enabled the department to request and receive about 90 percent of the federal share of moneys spent in the month following actual expenditure. Without this concurrent program, construction activity during the biennium might have had to be curtailed. With the large sums of money involved and the limited state highway funds available, rapid reimbursement was a necessity for continuation of the accelerated program.

It is anticipated that as roadbuilding becomes more complex, and the overall program continues to increase, accounting activity will grow and procedures will be revised to meet the demand.

PERSONNEL

In keeping with the expansion that occurred throughout the highway program, department personnel figures showed a marked increase during the biennium. As of June 30, 1964, highway employees numbered 1,737, an increase of 375 over the previous year and 505 over the end of the previous biennial period.

Most of the growth took place in the classes of engineers and engineering aides. As the biennium closed, there were 610 construction employees, 477 in maintenance, 87 in right-of-way, and 129 in design.

A major effort to recruit new employees was made to meet this increased demand for personnel. Emphasis was placed on attracting project engineers, design engineers, construction inspectors, and right-of-way agents. During the past 2 years it was necessary to organize and train 14 new construction crews.

Classification studies were made on a continuing basis. The 1963–64 period saw the completion of 165 classification studies and the establishment of 15 new classes.

TRAINING

A formal training program was initiated during the biennium. It was set up to provide instruction for both present and future employees. Classes were established for in-service training of personnel from testing, construction, and right-of-way.

A cooperative program with the University of Nevada was initiated for the training of prospective department engineers.

As the biennial period closed, a full-time training officer was hired to organize and supervise a continuing in-service instructional program. A priority was given to arranging classes in surveying, inspection, testing, and in materials.

ENGINEERING

PLANNING

Planning activity continued to expand during the past 2 years. New operational areas were added and several of the old ones increased in size.

As in the previous biennial period, planning included such activities as road inventory, mapping, photogrammetry, geodesy, traffic, road life, highway finances, special studies, and aerial reconnaissance. To these functions were added systems analysis and programming, and flight operations.

The third cycle of statewide road and street inventory was undertaken during the biennium. Nearly 4,000 miles of roadway on the State's primary and secondary systems were rated for conditions, safety, and service.

New county and city maps were prepared, traffic flow maps produced, and a revised general state map published by the mapping section.

For special studies, the past biennial period proved a peak one. As part of an urban transportation study, home interviews for the origin and destination of motorists in the Truckee Meadows region were conducted. The 1958 tourist survey was updated by a similar study made in 1963. Special O–D studies also were held for traffic at Hoover Dam and at Stateline, Lake Tahoe.

DESIGN

Both road and bridge design activity reached a new peak these past 2 years. Design was completed and contracts let on 47 highway projects.

Included in the record-setting total were 15 on the Interstate system, 17 on the primary, 9 on the secondary, 3 on the urban, 2 state projects, and 1 miscellaneous one. Estimated construction cost of the jobs exceeded $57,700,000.

Preliminary engineering expenditures for the work itemized above, and expenditures for design and engineering under way on future projects totaled $4,418,000 during the biennium. This included $1,283,000 paid consultants for design and preparation of plans for freeway construction through the urban sections of Reno-Sparks and Las Vegas-North Las Vegas, statewide aerial mapping, foundation exploration for future structures, materials survey, and other specialized investigations and reports.

Structures designed during the 1963–64 period included 117 on the Interstate system, alone. In addition to the 142 built or under construction, there were 34 others designed. Estimated construction cost of those placed under contract was $8,480,000.

RIGHT of WAY

Rapid expansion of the highway program over the past two fiscal periods is clearly reflected in the growth of right-of-way activity. The staff doubled to a total of 82 employees in Carson City, Sparks, Elko, and Las Vegas to handle the tremendously expanded workload.

As was the case in the previous biennium, operations of the right-of-way division were further decentralized. A section was established in the District Two office in Sparks to accommodate demands of the Interstate program.

Indicative of the sharp increase in activity is the $8,095,000 spent on right-of-way acquisition during the biennium compared to the $2,339,000 spent during the previous 2-year period. Although nearly 500 parcels of land were acquired in 1963 and 1964, it is conservatively estimated that this figure will triple during the upcoming biennium.

With the expanded program came changes in organization. Added to the sections for engineering, appraisal, negotiations, clearance and property management, utility, and clerical, were sections for relocation assistance and appraisal review.

Training, too, became an important aspect of right-of-way work in the last 2 years. A 3-week full-time right-of-way agents' school was held in Carson City with a teaching staff of professional instructors from outside the department.

TESTING

Testing activity following the trend of other highway operations sharply increased its program between July 1, 1962, and July 1, 1964. The 39 employed at the close of the biennium was a 60 percent gain in personnel over the 2-year period.

Greater emphasis was placed on the record sampling program developed in the previous biennium. In the past, two men sampled subgrade material; now three crews of two men each are engaged in this activity. To provide more adequate coverage for the widespread construction program, gravel sampling crews were increased from two to four, and during the summer construction season the soils and aggregate section of the testing division was divided into two shifts.

Additional employees were assigned to conduct extraction tests on asphalt as part of the record sampling operation. Other new personnel were given the job of making tests on factors relating to the quality of the paving materials.

New equipment was installed to provide more accurate means of analyzing other construction materials including soils, gravels, steel, and cement. Personnel from both construction and testing crews had to be trained to handle the control and record sampling activity connected with the increased use of cement in stabilizing base material.

SURVEYS

In the past 2 years, field crews on construction and location have increased personnel by two-thirds; from 320 at the close of the previous biennial period to 500 at the close of this period. Location of 150 miles of new highway was completed in the last 2 fiscal years and nearly 400 miles was surveyed and staked for construction.

An average of 22 crews operated almost continuously throughout the past biennium in order to handle the surveying requirements of the record-high construction program of the past 2 years. When weather conditions shut down the operations of the contractor, field personnel spent their time staking out new jobs or taking part in the several training classes under way during the winter season.

Between July 1962 and July 1964 it was necessary to recruit for, organize, and train 14 new construction survey crews. The added demands of the Interstate program made it necessary to enlarge the size of the field crews to handle the complex job of staking, inspecting, testing, and supervising the mammoth freeway projects.

With speed the essential item in completion of the Interstate system by 1972, much of the location work was accomplished through the use of aerial surveys. During the biennial period, three aerial surveys were completed for design and alternate route study of 37 miles of freeway alignment.

CONSTRUCTION

During the biennium, the accelerated highway program made it necessary to greatly expand all phases of the construction operation. Personnel in both field and office more than doubled over the 1961–62 period. In July 1961 there were 205 construction employees; in July 1964 there were 511.

A major change in construction activity was the increase in supervisory requirements and personnel. In addition to the previous inspectors that supervised construction progress as part of a field survey crew, there were specialists from the headquarters construction division that checked on the quality and quantity of materials used, on the operation of the asphalt and concrete plants and paving equipment, on compaction of roadway material, and the erection of structures.

Construction standards, too, were revised during the biennium, and work begun on rewriting the construction specifications manual.

In addition to their normal supervisory duties, the construction engineer and his staff organized and supervised several technical training classes and short schools in 1963.

EQUIPMENT and MAINTENANCE

During the 1962–64 biennium, the equipment and maintenance operations were equally affected by the high level of construction activity. Personnel, equipment, and workload increased to meet the rising demands.

As in the previous 2 years, flooding caused some maintenance problems and contributed to the increased cost of road repair activity. Late winter and early spring rains in the northeastern section of the State affected gravel sources, delayed maintenance work, and damaged roadways and bridges in the area.

Offsetting these adverse conditions was the mild winter weather encountered during the 2-year period. For the first time in many seasons, freezing temperatures did not occur until October in northern Nevada, permitting betterment work to continue beyond its usual September deadline.

A further gain in maintenance costs was recorded during the biennial period. During the 1963 and 1964 fiscal years, per-mile costs averaged $1,118 and $1,202, respectively, compared to $894 and $1,158 in the previous biennium. This increase was due primarily to rising labor costs, more demand by the motorists for highway services such as roadside rests, informational signing, striping, lighting, and a greater workload.

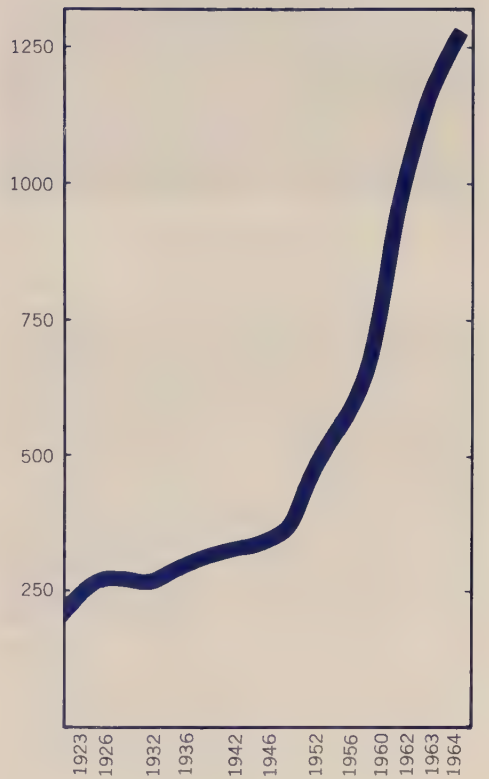
In an effort to offset the rising expenditures, the department continued its policy of using bigger and more modern equipment and more efficient methods of production.

The truck fleet was improved by purchase of larger units and through the use of diesel engines and transfer dump trailers. In the production of sand and gravel needed for maintenance, radial stackers were used to decrease the need for trucks and drivers in stockpiling material.

To improve efficiency of the winter ice and snow removal program, special sand storage bins with heating facilities were installed in key locations in northern Nevada. These bins greatly reduce hauling time and provide an on-site material source for de-icing the highways during storm conditions.

A new equipment shop facility in Sparks was completed in November 1963. That same year, the new maintenance station and department motor pool was constructed in Carson City.

Although the workload increased sharply during the biennial period, only slight gains occurred in the number of employees and in the number of operating units. In maintenance, personnel increased from 377 in 1962 to 395 in 1964 while in equipment the number rose from 119 to 137.



MAINTENANCE COST PER MILE

CAPITAL IMPROVEMENTS

Expansion of the Highway Department's physical facilities during the 1963 and 1964 fiscal years reflected the overall growth of the roadbuilding program. Capital improvements totaled a record-setting $2,291,342.

Although these improvements took place during this biennial period, the need for many of them dates back more than a decade. Only in the last few years have funds been available for the replacement of inadequate and out-of-date facilities.

Overcrowded office space and antiquated maintenance buildings have been a growing problem for the department since the 1950's when the highway program began its current upward spiral. Employee working space has been particularly crucial with the number of personnel more than doubling since 1954. Ten years ago, 750 people were employed; today there are over 1,500 highway employees.

Most significant improvements made in the physical facilities were the completion of the equipment shops in Sparks and the new maintenance station and motor pool in Carson City. Equally important was the beginning of construction on the highway headquarters building and completion of the new testing laboratory, also in Carson City.

These four buildings accounted for most of the $2,300,000 spent on capital improvements in the past 2 years. Including the yet unfinished headquarters structure, total contract prices for the new facilities exceeded $3,500,000.

In addition, contracts totaling $350,000 for six other improvement projects were awarded or completed during the biennium. New or improved facilities were erected at Pequop in Elko County, at Fallon in Churchill County, at Winnemucca in Humboldt County, at Incline in Washoe County, at Bluejay in Nye County, and at East Ely in White Pine County.

In building the equipment shops in Sparks, the department was replacing facilities that had been in use for over 40 years. Total cost of the original buildings erected in 1921 was $37,200 compared to the $740,000 spent on the new shops. At that time only 13 men were employed; today, more than 100.

The new facility includes an equipment repair shop, a radio repair building, a sign shop, and equipment and space for carpentry, vehicle cleaning, gas and diesel fueling, and storage.

The maintenance station and motor pool in Carson City which was completed late in the biennium replaced a facility in use since 1935. At a bid price of $425,000, the new station was equipped with modern concrete buildings to house motor pool cars, service and storage facilities for maintenance equipment, a repair shop, a service station, and a sand and salt supply.

As the biennial period closed, work was nearly completed on the testing lab. This structure, together with the Carson maintenance station and the new headquarters building, form the highway complex being erected near the south limits of Carson City.

Including space for testing equipment and offices, the new lab was designed and built specifically for the materials and testing program. Since its inception in the early 1920's, the division has operated in three other locations; in the basement of the Hero's Memorial building, in an addition to it that now houses the State Health Department, and in the basement of the present highway building.

In addition to these major projects, the department continued the program begun in the previous biennial period of expanding facilities in Las Vegas. Primarily, the improvements were made to house the growing right-of-way operation in that city. An entire right-of-way section now operates from the district office as part of the decentralization of highway activity.

For the first time in department history, a sizeable revenue for capital improvements was derived from the sale of highway property. The former Carson maintenance station site was cleared and sold in August 1964 for $510,000. This amount will be credited to the 1965–66 biennium and help pay for the new station.

In 1963, arrangements were completed for sale of the present highway headquarters back to the State for use as a general office building. A credit of $754,000 was made to the State Highway Fund and helped offset the construction cost of the new headquarters facility.

This past 2-year period has been a peak one for improving the department's physical plant. It brings to a close a phase of the program of capital improvements that began nearly 10 years ago with the construction of the present district office in Tonopah. Since that time, similar modern buildings have been erected in East Ely, Elko, Winnemucca, and Sparks, and major changes made in the district headquarters site in Las Vegas. At the same time, most of the older maintenance stations have been rebuilt and many new sites have been constructed throughout the State.

Despite the millions spent in the past few years, the department must continue to improve its facilities. To meet anticipated growth in the highway program, highway officials have budgeted over $2 million for capital improvements in the next 3 years.

DISTRICT 6

Maintaining its surge of highway activity from the previous biennium, District Six continued its emphasis on freeway construction. Four contracts costing $8,578,000 were awarded for building 44 miles of Interstate roadway. In the same period, two jobs were completed, opening to traffic 25 miles of new freeway.

On the primary system, a $694,000 project for construction of 13 miles of highway was awarded and completed. Two contracts were let for work on the secondary system at a cost of $573,159 for 9 miles of road; and during the same 2 years, two other jobs were finished, adding 21 miles to the secondary network at a cost of $987,000.

A new assistant district engineer was appointed. He was responsible for supervising maintenance on 582 miles of highway. Of this total, 19 miles were resurfaced, 24 miles sealed and chipped, 193 miles sealed and sanded, and 500 miles flush sealed.

DISTRICT 2

Second among the districts for highway activity was District Two. Highlighting this past biennial period were freeway construction and capital improvements.

Interstate contracts totaling nearly $15 million were awarded for construction of 36 miles of freeway. In the same period 36 miles were completed.

On the other systems, projects costing over $7 million were let for bid to construct 55 miles of primary highway and 32 miles of secondary roads. Jobs completed during the 2 years opened 61 miles of new roadway at a contract cost of $3,500,000.

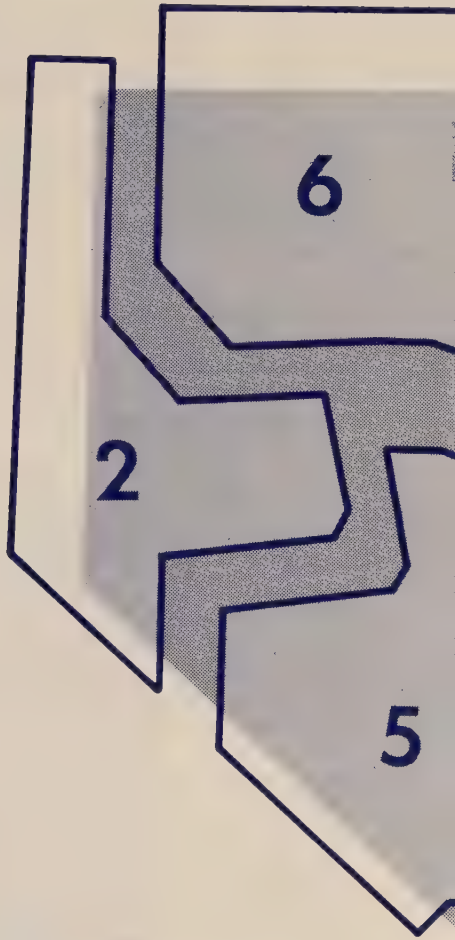
Employee strength increased to 116 compared to 114 in 1962. In maintaining 996 miles of highway, the district resurfaced 73 miles, sealed and chipped 73 miles, sealed and sanded 189, and flush sealed 10 miles.

DISTRICT 5

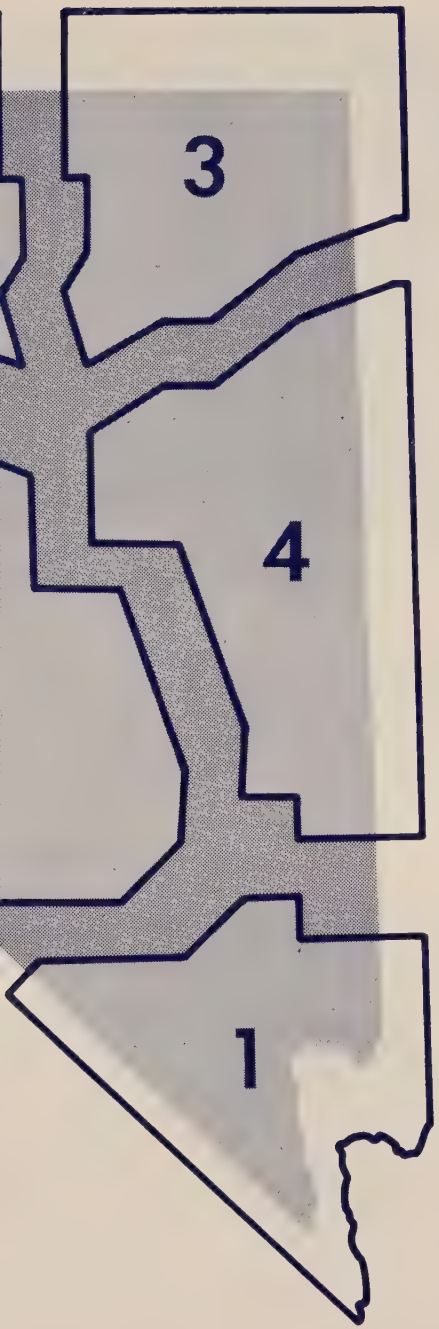
Both construction and maintenance rated high in District Five. During the 1963–64 biennial period, 48 miles of new road were opened to traffic under three contracts costing $2,800,000. At the same time, the district carried on an extensive improvement program on its 849 miles of primary and secondary roads.

Most important single activity was the beginning of work on the reconstruction of U.S. 95 in Tonopah and U.S. 6 from Tonopah to the State Route 8A junction northeast of town. The 10-mile job, awarded for $829,993, included the relocation of the U.S. 95 intersection with U.S. 6 and reconstruction of the route from its junction with 95 to its junction with 8A.

District maintainers resurfaced 45 miles of roadway, sealed and chipped 102 miles, sealed and sanded 35 miles, and flush sealed 63 miles.



HIGHWAY MAINTENANCE DISTRICTS



DISTRICT 3

Interstate and primary construction accounted for most of the activity in District Three during 1963 and 1964. Two contracts costing $4,344,000 for 13 miles of freeway and two jobs costing $1,380,000 for 25 miles of primary highway were awarded. Work was completed on one 12-mile Interstate project and on three primary contracts totaling 39 miles.

At the same time one secondary job of 11 miles was let for $350,000. Two contracts totaling 23 miles were completed for $748,000.

Personnel increased nearly 10 percent from 84 to 91 during the biennium. However, district mileage was reduced from 722 to 642 miles and two maintenance sections were transferred to District Four. Maintenance activity included resurfacing 33 miles of roadway, sealing and chipping 184 miles, sealing and sanding 28 miles, and flush sealing 126 miles.

DISTRICT 4

Improvement of the secondary system was the leading activity in District Four in the past 2 years. Two contracts for 20 miles of road were awarded for $569,500 and completed along with a 24-mile job from the previous biennium costing $1,157,277.

On the primary system, the Murry summit project was completed, improving 6 miles of U.S. 6 at a contract cost of $773,716. Maintenance forces rebuilt a short section of U.S. 93 in Caliente.

An increase in personnel occurred as 13 employees were added to the 1962 total of 72. The size of the district also increased as 103 miles were added to the 743 of last biennium. Two maintenance sections as well as the mileage were transferred from District Three.

All maintenance work occurred on the primary system where 44 miles were resurfaced, 33 miles sealed and chipped, and 50 miles sealed and sanded.

DISTRICT 1

Highway activity in District One led all other districts in the State during the past 2 years. Most important project was the reconstruction of U.S. 95 between Las Vegas and the Mercury test site.

Work was under way on all systems in the district. Thirteen contracts, costing $22 million were awarded for construction of 137 miles of road; 25 miles on the Interstate, 93 miles on the primary, and 19 miles on the secondary. Including the carryover from the previous biennium, 10 jobs totaling 103 miles were completed: 30 on the Interstate, 40 on the primary, and 33 on the secondary, at a contract cost of more than $12 million.

District personnel increased from 91 in 1962 to 105 in 1964. Of the 754 miles maintained, 5 were resurfaced, 50 were sealed and chipped, 72 sealed and sanded, and 26 flush sealed.

AFTER 1972 WHAT ?

Despite belief that the highway program will continue at its present pace for the next decade or two, department officials are concerned with the direction this anticipated activity will take. Their concern is shared by other highway administrators on both the state and national levels.

Emphasis could be shifted from Interstate Freeways to the primary or secondary systems. Urban areas, too, are in critical need of improved street and road systems. As the 1964 fiscal years closed, the Highway Department was looking forward to a $57 million program in 1965, a $59 million program in 1966, and a $65,672,000 one in 1967. Much of this expenditure is slated for construction of the Interstate Freeway system. During the next 3 years, over $90 million is programmed for work on I–15 and I–80.

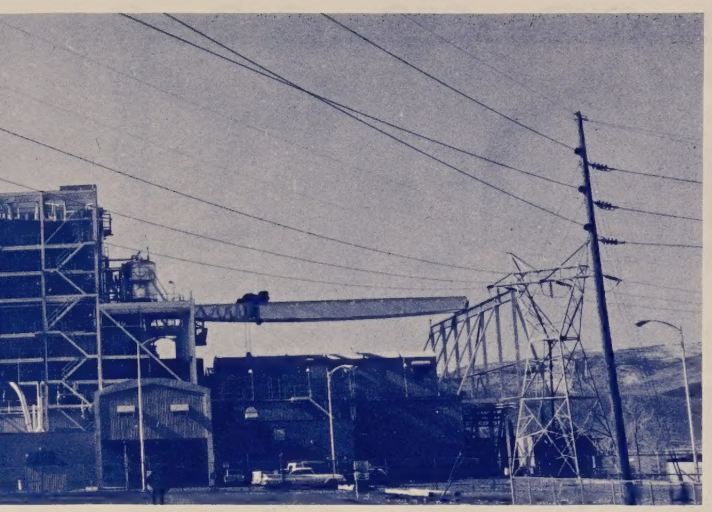
By 1970 the department expects to have the last of the unconstructed Interstate mileage under contract, providing funds are available. Within the following 2 years, all work is scheduled for completion, including final vouchering and reimbursement by the federal government.

HIGHWAYS ARE VITAL TO DEFENSE

INDUSTRIAL DEVELOPMENT

However, what happens after 1972? The federal highway trust fund from which money is appropriated for construction of the Interstate system will still be receiving road user revenues, but the present program will be finished, if it proceeds on

FARM TO MARKET



REQUIRES GOOD ROADS

schedule. At present over one-half of Nevada's highway activity is directed toward building freeways. What happens to this effort and the contribution it makes to the State's economy when the Interstate system is complete?

ROADS ARE NEEDED

An important key to future highway activity will be the work under way on urban transportation planning. For the first time in Nevada's history, city traffic needs are a critical aspect of the roadbuilding program.

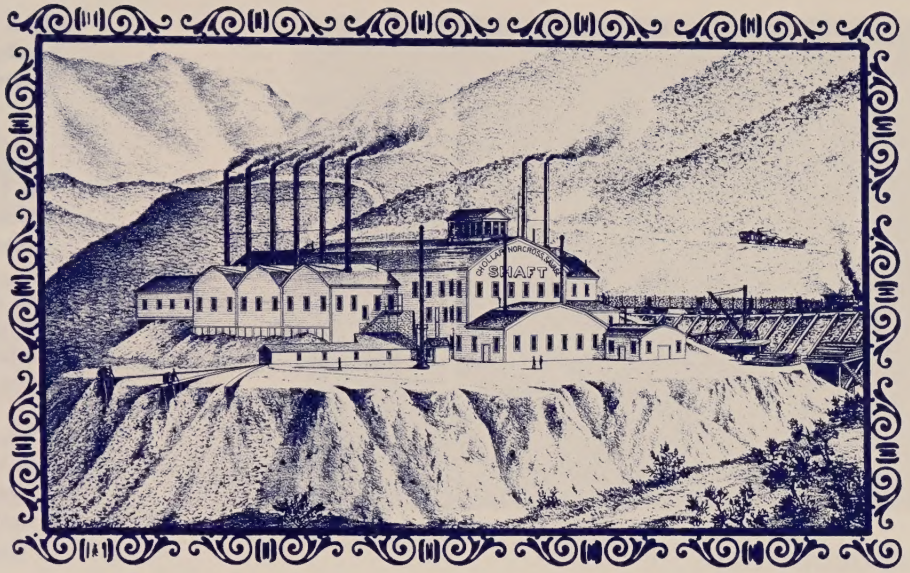
In an effort to provide for this mushrooming problem of intracity traffic, the department started preliminary design on three major urban expressways: one in Las Vegas, and two in Reno. Public hearings were held on the proposed route locations and the projects were programmed for contract within the next 4 years.

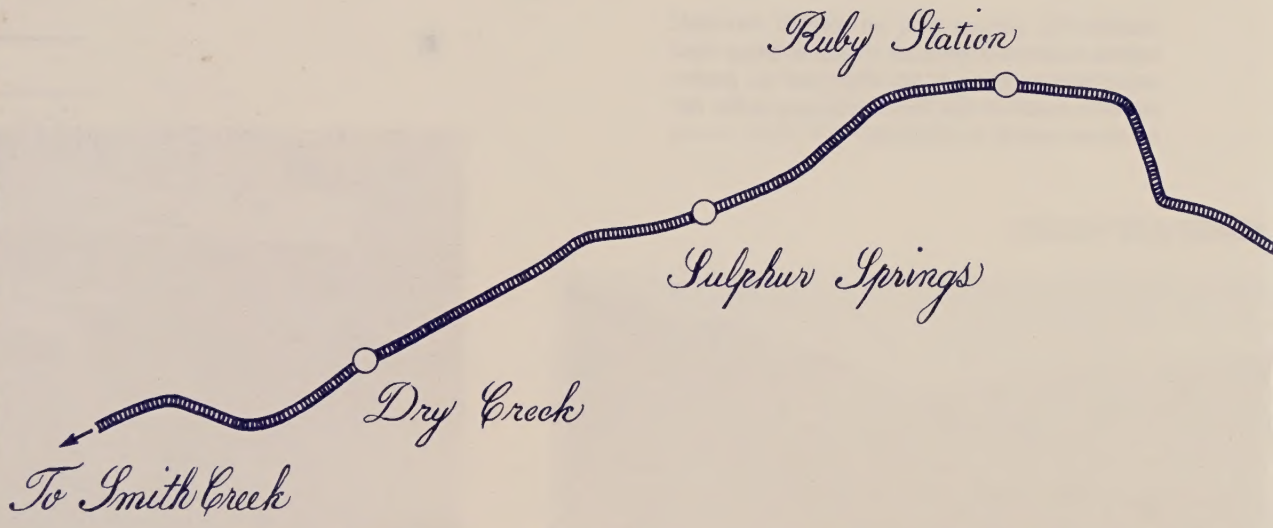
In another phase of highway planning, the department is developing a 20-year program of statewide secondary road requirements. The various counties were asked in 1963 to submit their estimated secondary highway needs for the next two decades.

Accompanying this activity are department efforts to place U.S. 50 and a section of U.S. 395 between Carson City and Reno on the Interstate system. With current and foreseeable need for improving and expanding Nevada's highway network, there certainly will be great achievements to look forward to after 1972.

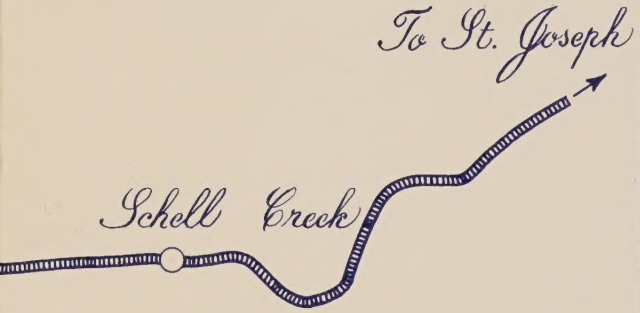
MORE HIGHWAYS ARE NEEDED FOR URBAN TRAFFIC

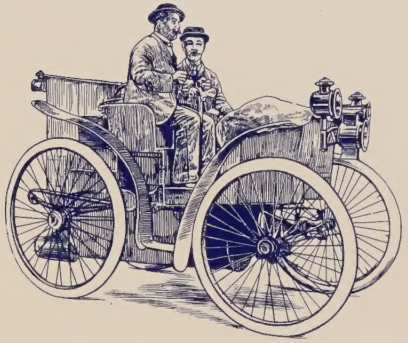
As Nevada grew, roads became lifelines for the pioneers who tilled the soil and mined the ore. Development of the State's farming and mining industries would not have occurred without those early wagon roads. From the well-traveled pioneer routes, small trails branched out in all directions.





Accompanying this growth of early "highways" were the construction of railroads and the development of freight lines and mail routes. The various forms of transportation frequently followed the same alignment since natural barriers restricted locations for these routes. It was mining men like Mackay who spearheaded the efforts for better means of transportation, and it was the mines and ranches that produced the freight that made improved methods of movement necessary.





In the early days it was the horse-drawn vehicle that built and used the roads. The narrow, twisting, and usually dusty or muddy routes were a far cry from the modern concept of a highway, but they served the purpose and made possible the State's growth. But it was the "horseless" vehicle that inaugurated the present highway system and Nevada's Highway Department. With horseless carriages came power and speed and the need for a uniform and organized method of road building. Then, as cars and trucks improved and traffic increased, the highway program grew.

First came the graded roads that hardly seemed better than wagon ruts. Next, the gravel highway that provided the first all weather route. Finally, motorists demanded something better, and the paved highway was born. This didn't stop progress in road building; it only speeded it up. As highways became better, more people drove; and as traffic increased, even better highways were needed. Two lanes expanded to three, then four, then six, then eight and more, and the modern freeway became a reality.

NEVADA CENTENNIAL

FISCAL YEARS 1963-1964

TWENTY-FOURTH BIENNIAL REPORT

NEVADA HIGHWAY DEPARTMENT